

REMARKS

Claims 36; 38; 40 to 60; 63; and 65 to 68 have been amended. Claims 37; 39; 61; and 62 have been cancelled. Claims 1 to 35 were previously cancelled. New claims 69 to 76 have been added.

Claims 36; 38; 40 to 60; 63; and 65 to 76 remain in the application. Among these, claims 36 and 38 are independent method claims; claim 53 is an independent system claim; and claim 63 is an independent composition claim.

All independent claims have been amended to define a hydrogen containing gas blend or mixture comprising by volume 50% or less hydrogen gas. The prior art applied by the Examiner – Rabinovich US 5,437,250; Moard US 5,299,536; and Benz (US 2005/0115226) – are directed to the use of hydrogen-rich fuels. Neither Rabinovich nor Moard nor Benz teaches or suggests the use, in hydrogen assisted combustion within a compression engine, a hydrogen containing gas blend or mixture that comprises 50% or less hydrogen gas, i.e., a fuel that is not hydrogen rich. The applicant has discovered that, rather than having to remove the contaminating or impure components from the hydrogen produced by a hydrogen generator at high cost, as was previously required – it is possible to use other than pure hydrogen in compression engines; that is, it is possible to use hydrogen combined with other by-products from a hydrogen generator as an additive to the fuel supply of compression engines without there being any observable reduction in efficiency of operation or power generation of the engine. See, e.g., Specification, page 4, lines 12 to 29.

New claims 69 to 76 further define this aspect of the invention.

Moreover, neither Rabinovich nor Moard teach or suggest cooling a hydrogen containing gas blend or mixture comprising by volume 50% or less hydrogen gas prior to its combustion in a compression engine, nor the use of heat derived from exhaust gas to aid in the reaction of materials in the hydrogen generator from which the gas blend or mixture is produced.

Claims 36; 38; 40 to 60; 63; and 65 to 76 are believed to be in condition for allowance.

Respectfully Submitted,

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17 October 2008

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Enclosure: Amendment Transmittal
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